EXHIBIT G

FIELD PROGRAMMABLE GATE ARRAY (FPGA)

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A field programmable gate array (FPGA) is an integrated circuit (IC) that includes a two-dimensional array of general-purpose logic circuits, called cells or logic blocks, whose functions are programmable. An FPGA is a programmable integrated circuit which provides a customized logic array and functionality to a particular customer. Programmable logic devices are widely used in the electronics industry. Contemporary programmable logic devices typically comprise a homogeneous, general-purpose logic array. Such programmable logic devices use typically requires various programmable logic devices to serve multiple purposes. Instead of designing specific gate arrays for each purpose, multiple homogeneous programmable gate arrays are programmed to serve each required purpose. Field programmable gate arrays (FPGAs) are typically used for these purposes. Digital logic can be implemented using any of several available integrated circuit architectures, including hardwired application-specific integrated circuits (ASIC), mask or fuse-programmed custom gate arrays (CGA), programmable array logic (PAL), programmable logic arrays (PLA) and other programmable logic devices (PLD) that typically employ nonvolatile EPROM or EEPROM memory cell technology for configuration by the user, and field programmable gate arrays (FPGA) which generally use SRAM configuration bits that are set during each power-up of the chip. Application specific integrated circuits (ASICs) offer the electronics designer the ability to customize standard integrated circuits to provide a unique set of performance characteristics by integrating complex functionality and input/output (I/O) on a single integrated circuit. The significant benefits regarding the use of ASICs are customization, the ability to create unique functionality, and economies of scale for devices destined to be mass-produced. Alternative devices, such as field programmable gate arrays permit the digital logic designer access to standard digital logic functions and capabilities, and additionally allow certain functions and I/O to be programmed rather than fixed during production. Programmability offers the advantages of greater design flexibility and faster product implementation during subsequent system development efforts. FPGAs offer the advantages of low non-recurring engineering costs, fast turnaround, and low risk since designs can be easily amended late on in the product design cycle. For purposes of low volume applications and the creation of prototype units, FPGAs typically exhibit lower unit costs than do ASICs. Field programmable gate arrays have been widely used in telecommunication applications, Internet applications, switching applications, routing applications, and a variety of other end user applications. Field programmable gate arrays have become the solution of choice for logic design implementation in applications where time to market is a critical product development factor.

There are three primary configurable elements in a FPGA circuit: configurable logic blocks (CLBs), input/output (I/O) blocks, and programmable interconnects. Field programmable gate arrays consist of repeated blocks of logic called configurable logic blocks (CLBs), which can be programmed to perform as a specific combinational or sequential circuit. Each of these CLBs includes a block of configurable logic elements (CLEs) and corresponding programmable routing resources. The routing resources associated with the various configurable logic blocks can be programmed by the user to provide various connections among

RELATED PROCEEDINGS APPENDIX

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None. There are no related proceedings